

AMG-18 TM/DDM Tech Exchange

Katherine L. Morse
SAIC
katherine_morse@cpqm.saic.com

<p style="text-align: center;">AMG - 18 DDM Technical Exchange</p>
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Agenda

Data Distribution Management

9:00	Introduction and agenda	Morse
9:15	I/F Spec change process for DM/DDM	Dahmann
9:45	Overview of DM/DDM study	Kemkes
10:30	Review of DM/DDM alternative selection	Morse

Lunch

11:30

Data Distribution Management (cont.)

1:00	Recording global DDM data	Morse
1:30	Perfect DDM	Morse

Time Management

2:00	Time Management and security guards	West
2:30	Update on zero lookahead experiments	Steinman
3:15	Zero lookahead, barrier synchronization and other TM items	Fujimoto
4:00	Simultaneous events	West
4:15	UK RTI experiences	Hoare

Wrap Up

4:45	Action item review	Morse
5:00	Plans for next meeting	Morse

Topics to be Discussed if Time Permits

Perfect DDM	Morse
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DM/DDM Alternative Selection

- **Associated attributes**
 - **Alternative 2: remove attribute set from DDM service 7.3, Associate Update Region, and remove region designator from DM service 3.3, Subscribe Object Class Attribute**
 - **Must also guarantee only one delivery of an attribute to a federate for a single update of that attribute**
- **Interoperability between DDM and non-DDM federates**
 - **Alternative 2: relying on alternative 2 for associated attributes, non-DDM data is routed through an implicit universal routing space**

DM/DDM Alternative Selection

- **Subscription overrides**
 - **Alternative 1: selection of alternative 2 for each of associated attributes and interoperability between DDM and non-DDM federates overrides this problem; there are no longer regions associated with Subscribe Object Class Attribute**
- **Discovery**
 - **Alternative 3: discovery coincides with object registration, not attribute update**
 - **Update region(s) will have to be added to Register Object service as an optional parameter to support this uniformly across DM and DDM**

Impacts of This Set of Alternative Selections

Recording Global DDM Data

- **Routing spaces**
 - **Names**
 - **Dimensions**
 - » **Dimension name**
 - » **Range or enumerated set**
Units?
 - » **Normalization function?**
One of a named set of functions, e.g. linear or
enumerated mapping?
Actual function, e.g. $[x \cdot (r_{\max} - r_{\min})] \cdot (n_{\max} - n_{\min}) + n_{\min}$ or $[(on, 1), (off, 0)]$?

Federation DDM Model (FDM)

Routing space name	Dimension name	Type	Range/ enumerated set	Units	Normalization Function
Location	x	float	[0,200]	km	linear(0.,1.)
	y	float	[0,150]	km	linear(0.,1.)
	z	float	[0,5)	km	linear(0.,1.)
Force	affiliation	enumeration	{blue, red}		linear enumerated(1)

Questions on Recording Global Data

- **Does the data need to be different for interactions?**
- **Does the separation of DM and DDM remove the requirement to record routing of attributes through spaces?**

TM/DDM Tech Exchange Results

- **New topics discussed**
 - Supporting subscription associations
 - Request Attribute Value Update on a region basis
- **Candidate topics for next TM meeting (14 May)**
 - Results of zero lookahead experiments and recommendations
 - » Eagle
 - NERA/TARA
 - Enabling/Disabling Time Regulation/Time Constraining
 - Simultaneous events
- **Candidate topics for next DDM meeting (17 June)**
 - Recording global DDM data
 - Ownership management

Action Items from TM/DDDM Tech Exchange

<u>Number</u>	<u>Assignee</u>	<u>Date Due</u>	<u>Action Item</u>
16-3	Steinman/Metron	June AMG mtg.	Perform zero-lookahead experiments
16-4	Fujimoto	June AMG mtg.	Make recommendation on zero lookahead for August I/F spec checkpoint
17-1	MacDonald	2/21/97	Forward STOW FOM extensions for DDM to KLM <i>Received</i>
18-1	Kemkes, Petty, Morse	4/14/97	Post DM/DDM issue updates to DDM reflector
18-2	Morse	5/2/97	Post initial report on recording global DDM data to DDM reflector

Review of DM/DDM Issues

- **Initial discussions held at previous DDM tech exchange (AMG-17)**
- **Report prepared on issues and alternatives**
 - **Initial input from DDM tech exchange**
 - **Iterations based on discussions between authors and on DDM reflector**
 - **Delivered to DMSO 28 March**
- **DMSO made initial selection of alternatives on 1 April**

Review of DM/DDM Issues

- **Selected alternatives discussed as a set at yesterday's DDM tech exchange**
 - **Report on discussions to be delivered to DMSO 17 April**
- **Based on original report and update, I/F Spec update to address findings to be prepared by 1 June**